

REMARKS

In the Office Action dated May 12, 2006, pending Claims 15-42 were rejected and the rejection made final. In response Applicants have filed herewith an Amendment After Final and request reconsideration of the rejections in view of the following remarks.

Preliminary Matters

Information Disclosure Statement

The outstanding Office Action indicates that the copy of the material cited in the Information Disclosure Statement filed on December 22, 2006, was not legible and therefore the Information Disclosure Statement was not considered. The copy of the material in the undersigned's file is legible, however, and a further copy of the cited material is attached hereto. Consideration of and an acknowledgement that this material has been considered is respectfully requested.

Finality of the Rejections Should be Withdrawn

Applicants note the claim language which was the subject of the Section 103 rejections was not the subject of amendments by Applicants in the previous Amendment. As such, Applicants respectfully submit the finality of the outstanding Office Action was premature. Specifically, Applicants respectfully refer the Examiner to MPEP § 706.07(a), which provides in pertinent part,

Under present practice, second or any subsequent actions on the merits shall be final, **except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the**

claim nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.97(p).

In the present case, the Section 103 rejections based upon U.S. Patent No. 6,799,246 to Wise et al. was a new ground of rejection introduced by the Examiner in the outstanding office and was not necessitated by applicants' amendment of the claims. Accordingly, the final rejection was premature and should be withdrawn. MPEP § 706.07(d). Furthermore, while a first Office Action after a Request for Continuing Examination may be made final in certain circumstances, it is improper to make such an Office Action final where a new ground of rejection has been introduced by the Examiner. Thus, the final rejection was premature and should be withdrawn.

The Rejections

Of pending Claims 15-42, Claims 15, 23, 28, and 30 are independent claims; the remaining claims are dependent claims. Claims 19-21 and 34-36 are found to be directed toward patentable subject matter and thus objected to for depending upon a rejected base claim, but allowable if rewritten in independent form. Claims 15-18, 23, 28, and 30-33 stand rejected as being unpatentable over U.S. Patent 6,185,312 to Nakamura et al. (hereinafter Nakamura ('312)) in view of U.S. Patent 6,799,256 to Wise et al. (hereinafter Wise ('256)) under 35 U.S.C. § 103(a). Claims 38-42 stand rejected as being unpatentable over Nakamura ('312) in view of Wise ('6,799,246) and in further view of U.S. Patent 6,393,196 to Yamane et. al. (hereinafter Yamane ('196)) under 35 U.S.C. § 103(a). The Examiner is respectfully requested to reconsider the rejections presented in

the outstanding Office Action in light of the foregoing amendments and the following remarks.

**Rejection of claims 15-18, 23, 28, and 30-33
under 35 U.S.C. § 103(a) over Nakamura ('312)
in View of Wise et al. ('246):**

Applicants continue to assert that the present invention is not obvious over the cited art. Applicants' remarks in previous Amendments regarding Nakamura ('312) are equally applicable here. The outstanding Office Action is the first action in which a rejection under Section 103 has been made over the combination of Nakamura ('312) and Wise ('256).

As best understood, Nakamura appears to be directed to an apparatus, method, and medium for embedding watermarks in MPEG-2 video. The invention receives the motion picture, decodes and splits the picture into unit picture numbers that contain frames in the Group of Pictures. Each unit picture, comprised of frame pictures, is embedded with the embedding information (the watermark). (Column 7, lines 25-58) According to the specification of Nakamura, this watermark information is interchangeable with the sub-information. (Column 14, line 61 to Column 15, line 3)

There is no teaching or suggestion in Nakamura to have a system to embed watermarks in the MPEG-2 video data. Thus, Nakamura clearly does not disclose the invention as set forth in the claims. Additionally, there is no suggestion or teaching Nakamura to disclose "embedding **part or all of the additional data**". (Claim 15, emphasis added) As shown above, the sub-information that the Office equates with the

part of additional data is interchangeable with the watermark information that is embedded in the video data. Thus, although Nakamura uses the word "sub-information", this information is in fact not part of the additional data. There is no suggestion or teaching of embedding only a part or section of the watermark data or sub-information that is to be embedded into the data. Further, there is no suggestion or teaching Nakamura to disclose **"extracting data for a small domain from the detected video frame and for buffering the data"**. (Claim 15, emphasis added) As already stated previously, Nakamura embeds unit pictures that consist of more than one frame with the watermark information and further does not disclose or suggest processing the unit pictures into smaller blocks that are buffered.

The Examiner cites U.S. Patent No. 6,799,246 to Wise et al., stating "[i]n particular, columns 108-109 teaches the concept of such well known technique of embedding additional information in the sync intervals of a frame." A review of the cited section of Wise et al., however, shows that Wise et al. does not teach what is disclosed in the claims.

The Office Action concedes that "the suggestion for combination is not particularly specified in either Nakamura et al or Wise et al (or even Yamane et al)". The Office Action, however, does not make a prima facie case the combination is obvious, despite stating "the question in the test for combining references in a section 103 rejection is not solely relied on what the individual reference expressly teaches." The current standard for a combination rejection is addressed in a Memorandum from Margaret A. Focarino, Deputy Commissioner for Patent Operations, dated May 3, 2007, which

provides in pertinent part:

4) The Court noted that the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and that it was "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. The Court specifically stated:

Often, it will be necessary . . . to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.

KSR, slip op. at 14 (emphasis added).

Therefore, in formulating a rejection under 35 U.S.C. 5 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.

Applicants respectfully submit that the analysis underlying the purported combination has not been done in the present case and as such a prima facie case supporting the obviousness rejections has not been made. Such an analysis is particularly important when neither reference meets the limitations of the claims, the Office admits there is no suggestion in the references for the combination, the Office has not disputed Applicants' assertions Wise ('256) does not teach the limitations of the claimed invention, and the thus, the combination proffered by the Office would not result in the claimed invention.

For the foregoing reasons, Applicants respectfully submit that claims 15-18, 23, 28, and 30-33 are allowable over Nakamura ('312) in view of Wise ('256). Applicants respectfully request that the Examiner withdraw the rejection of claims 15-18, 23, 28, and 30-33 under Section 103(a).

**Rejection of claims 38-42 under 35 U.S.C. § 103(a)
over Nakamura ('312) in view of Yamane ('196):**

Claims 38-42 stand rejected as being unpatentable over Nakamura ('312) in view of U.S. Patent 6,393,196 to Yamane et. al. (hereinafter Yamane ('196)) under 35 U.S.C. § 103(a).

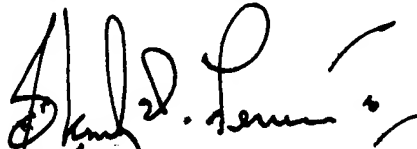
With regards to this rejection, claims 38-42 are dependent upon independent claims 15, 23, 28, and 30. Applicants respectfully submit that claims 15, 23, 28, and 30 are allowable over Nakamura ('312) in view of Wise ('256) as established above. Claims 38-42 are also allowable, then, for at least the same reasons as claims 15, 23, 28, and 30. Applicants respectfully request that the Examiner withdraw the rejection of claims 38-42 as being unpatentable over Nakamura ('312) in view of Wise ('256) and in further view of Yamane ('196) under 35 U.S.C. § 103(a).

Applicants graciously acknowledge that Claims 19-21 and 34-36 were indicated by the Examiner as being allowable if rewritten in independent form. Applicants reserve the right to file new claims of such scope at a later date that would still, at that point, presumably be allowable.

In summary, it is respectfully submitted that the instant application, including

claims 15-21, 23, 28, 30-36, and 38-42, is presently in condition for allowance. Notice to the effect is hereby earnestly solicited. If there are any further issues in this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



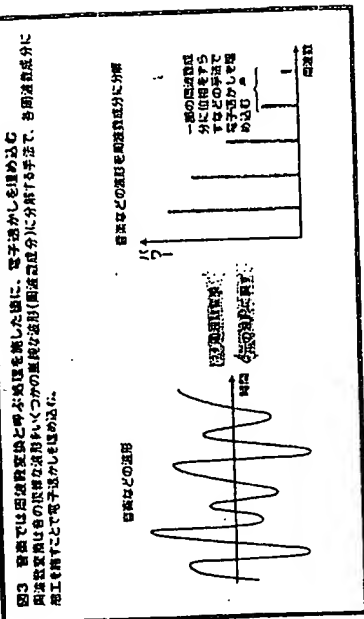
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やデータ圧縮方式が異なれば、電子透かし技術は当然異なる。デジタルのままで流通させるのか、紙なとアナログメディアにも対応させるのかによっても、技術を変えなければならぬ」(エム研の井上社長)がらだ。

そうは言っても、主に著作権保護の目的で使う電子透かし技術は、比較的共同性がある。大別すると、静止画や動画で画面の輝度を調整する方式と、音楽などで「周波数変換」を用いる方法の2通りがある。

画面の輝度を変えることで電子透かしを埋め込むのは、最も一般的な手法だ。画像に電子透かしを埋め込む場所を決めておき、その場所(画素)の輝度を表すビット列に変更を加える。たとえば、ビット列の最下位ビットに、電子透かしを埋め込む方法がある(図2)。この処理を画面の8カ所で行えば、8ビットの情報を含め込めるわけだ。しかも見た目にほとんど変化がないため、透かしの存在は気づかれずに済む。

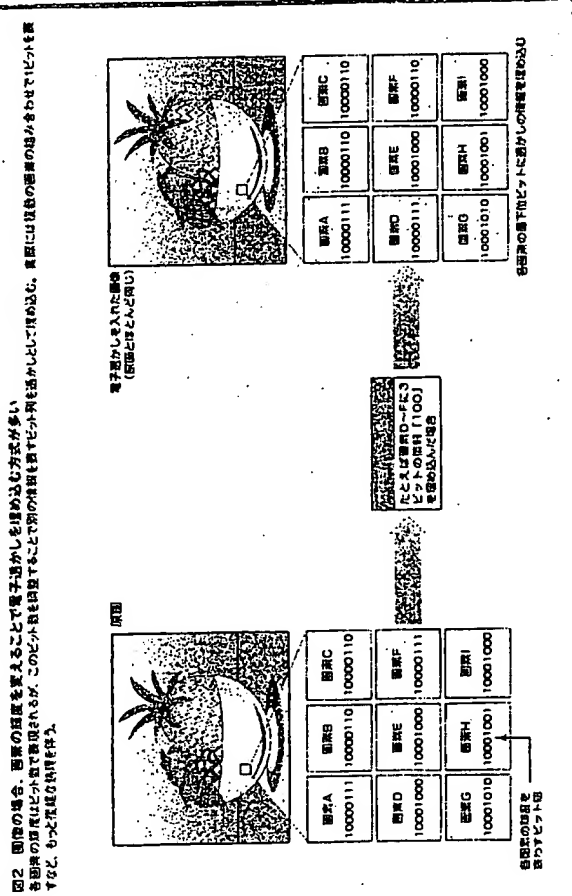
もちろん実際の処理はこれほど単純ではない。ここではデジタル圧縮などの際に、電子透かしが簡単に消えてしまうからだ。このため、1ビットのデータを埋め込む際に、複数の画素の輝度変化を組み合わせたことで、そのビットを表現するなど、もう少し複雑な処理が必要になる。

音楽は「周波数変換」を使う音楽コンテンツの場合は「周波数変換」を使う。周波数変換は音などの複雑な波形を、周波数成分

れるのは、コピー不可、1度だけコピー可能、コピーフリーの3種類の制御情報である。DVD機器はこの制御情報を読み込み、許可されている処理だけを行う仕組みだ。

この3種類の制御コードのうち、「1度だけコピー可能」は、デジタル放送で受信した映像をDVD-RAMに書き込むようなニーズを想定する。制御情報に従ってDVD-RAMへの書き込み作業を行う際に、「1度コピーした」として、この映像の再コピーを不可能にするわけだ。

この手法は単にDVD-RAMにとどまらない。デジタル放送での留守録機能、たとえばデジタルVHSなどでの電子透かしによりコンテンツに埋め込まれた電子透かしを技術的に見ると、実際に様々な手法がある。むしろ、電子透かしとはコンテンツになんらかの情報を埋め込む手法の総称で、技術的には全く異なるものの集合体と考えた方がよい。「コンテンツのファイル形式



DVDでは制御情報を埋め込むDVDでの著作権管理でも、電子透かしを利用しようという動きが本格化する。映画や音楽の業界関係者や家電メーカーなどで組織する米CPTWG(Copy Protection Technology Working Group)は、DVDで利用する電子透かしについてNECや日本IBM、日立など7社から提案を受けた技術を開発してきたが、4月中にも評価結果を発表する見通しだ。

CPTWGでは1社の技術に頼り込むことはしないため、DVDに電子透かし機能が搭載されるのはまだ先のことになりそうだが、CPTWGの発表により少なくとも方向性は決まる。電子透かしによりコンテンツに埋め込ま

呼ぶ複数の単純な波形に分解する手法で、デジタル圧縮の要素技術としても利用されている。電子透かしは、この周波数成分に加工を施すことで情報を埋め込む(図3)。その後元の波形に戻せば、透かし情報はごくわずかなノイズとなり、視聴者に気づかれることはない。

画像の場合も、画面の輝度の變化を波形と見なして周波数変換することができる。このため画像の中に、周波数変換による電子透かしの埋め込みが可能で、NECの技術はこの方式を採用している。

一方、暗号通信のように埋め込んだ情報に主眼を置く電子透かし技術は、全く異なる技術を使う。たとえば興和のSteganoFAX98の電子透かし技術は、フランクミリのデータ圧縮技術に依存している。フランクミリは走査線を読み取ったイメージデータを「この地点から黒の画素が何個、水から白の画素が何個続く」といった形式に置き換えることでデータ圧縮をかける。SteganoFAX98は、

この黒や白の画素数を埋め込んで透かし情報を埋め込んでいる。完全な電子透かし技術は存在しない。このように電子透かし技術は千差万別で、用途ごとに使い分けしていくかなさそう。しかも「絶対安全な電子透かしなど」は、日本IBM東京基礎研究所の小山昭夫プロジェクトマネージャ)というのが実情だ。

著作権保護の用途で利用した場合、不正な利用者がコンテンツの一部を切り取ったり、変形して利用したりした場合でも、透かし情報が残らなければならない。そのためには、透かしを「強く」入れる必要があるが、そうするとコンテンツの品質が低下してしまう。暗号通信で利用する場合には、画素などの乱れから透かし情報を解析されてしまう危険性がある。ユーザーは電子透かしが万端でないことを認識した上で、既存の暗号技術などと併用する形で利用していくのが賢明だろう。④

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